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Technical Report

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THINK FORWARD INITIATIVE

THE BENEFITS OF JOINT AND SEPARATE FINANCIAL MANAGEMENT OF COUPLES [*]

TECHNICAL REPORT

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Abstract

Financial management differs across households and this has various consequences for the financial outcomes and well-being of partners in households. A study has been performed on the financial management of couples, in households with or without children, in which data from both partners was collected on having joint and separate bank accounts, syncratic (joint) and autonomic (separate) financial management, the drivers of financial management, and the occurrence of financial problems. Based on the data, four financial management styles were distinguished: syncratic/joint, male-dominant, female-dominant, and autonomic financial management styles. In the syncratic financial management style, partners have a joint bank account and take most financial decisions together. In the male/female-dominant decision styles, one partner (either husband or wife) takes the main decisions about how to spend from the joint bank account. In the autonomic money-management style, both partners have their own bank accounts, and can make their own decisions. As a conclusion, we find that both syncratic money management and having a joint instead of separate bank accounts correlate with fewer financial problems compared to male-dominant money management and having separate bank accounts. Working together as partners of a couple is beneficial for financial management and for avoiding financial problems.

[*] This report has been prepared by the authors for the Think Forward Initiative. The questionnaire, employed in this research, was designed by Lei Pan (ING Bank, Think Forward Initiative, Amsterdam), Rob Doornbos (Motivaction, Amsterdam), and Fred van Raaij (Tilburg University).

[†] Paper written on personal title. Opinions in this paper are those of the author, and do not reflect the opinion of the Netherlands Tax and Customs Administration.

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1. Introduction

In many economic household decision-making studies, households are the units of measurement, ignoring intra-household dynamics, such as bargaining, and joint or separate financial decision making of partners. Taking households as units of measurement and analysis may be sufficient and appropriate for macro studies on the developments of aggregate household spending and saving. It may also be sufficient in studies on assessing the influence of consumer confidence, income and tax policy, economic policy, and other factors on household spending and saving in general. However, taking households as units of measurement does not provide any insights in the dynamics of decision-making processes, power and wealth differences between partners, differences in preferences and choice, financial management, outcome satisfaction and well-being of partners in households. The type of economic and, more specifically, financial decision making and choice in households is an important determinant of the quality and effectiveness of the decisions and the occurrence of financial problems in households. It is also an important determinant of unfavorable effects such as conflicts and (gender) inequality of power, and favorable effects such as satisfaction and well-being of partners in households (Burgoyne, 1990; Pahl, 1995; Vogler & Pahl, 1994).

In this study, we describe household financial decision making and financial management models from different disciplines, and empirically investigate the joint versus separate financial management styles of couples, their drivers, and their outcomes in terms of the occurrence of financial problems.

Due to, among others, technological progress, leading to an increasingly complex consumer environment and high speed of change, more knowledge and capabilities are required from partners in households in order to make optimal choices (Jappelli, 2010). Currently, the knowledge gap is increasing, especially in the consumer financial area (Willis, 2008). According to Braunstein and Welch (2002), there are several reasons for it. With the development of new technologies, such as the Internet, the amount of financial information available to households has increased considerably. Good financial knowledge, or financial literacy, to use this information and subsequently sound decision making and financial management differ largely between households (Jappelli, 2010) and are highly important for household financial management.

Apart from technological progress, the quality of household financial decision making is important because government support in household financial affairs is reducing rapidly, leaving it to households themselves (thus assuming high levels of self-reliance and resilience), or to market agencies to fill the gap. Examples where the quality of decisions is highly dependent upon the self-reliance of citizens are privatization of health insurance and medical care provision, increased use of digital communication channels by government, digital payment systems,

infrastructure (e.g., telecommunication), energy provision, and retirement funds. In all those cases, households have to make choices for alternative providers and contracts, often without much help from others. At the same time, household members are more and more treated as individuals in tax affairs, social benefits, and legal contracts, thus complicating family financial affairs further. Moreover, female labor market participation has increased, thus increasing the bargaining power of women in households. In such an environment, the need for bargaining between household partners is increasing, and differences in the partners' bargaining power may lead to unbalanced outcomes or overall non-optimal financial outcomes for the household as a whole.

Recognizing the need for high-quality decision making of households, we have conducted a survey on different financial management styles of couples. We study the socioeconomic background of couples with different financial management styles, and the differences in financial outcomes, such as the occurrence of financial problems.

The results of this study are relevant for banks to advise customers on their bank and savings accounts, for debt policy advisers to assist households in their financial management, and for consumers in general to improve their money management. Financial management of couples is an important determinant for improving financial decision making and avoiding financial problems.

2. Models of household decision making

2.1 Microeconomic models

In microeconomics, different models have been used to capture household decision making: unitary models, bargaining models, and collective models (Himmelweit et al., 2013; Antonides and Van Klaveren, 2018). *Unitary models* assume only one single household utility function, without specifying individual preferences, and assuming that the provision of goods and time is based only on the pooled household members' incomes. There are different types of unitary models. In Samuelson's (1956) consensus model, the partners agree on spending and saving, such that one social utility function is sufficient to describe their behaviour. The consensus model does not capture bargaining and conflicts between partners, arising from the realization of personal rather than household goals. In Becker's (1981) microeconomic model, the husband is the decision maker of the household taking his wife's preferences into account. The husband's utility function thus includes his wife's preferences and serves as the household utility function. Unitary models assume income pooling, which is commonly arranged by setting up a joint bank account with full access by both partners of the household.

However, couples often do not pool their incomes completely (Lundberg et al., 1997; Pahl, 2000; Burgoyne et al., 2007). Factors affecting income pooling are transaction costs (Treas, 1993), being married (vs. cohabiting), income, age, and the presence of children (Lyngstad et al., 2011).

Income pooling is, for instance, more common for households with married partners, partners with more-or-less equal income, and households with children. Income pooling also assumes that it does not matter which expenses are paid from the husband's income or from the wife's income. However, Browning et al. (2006) find that in Denmark child benefits given to mothers, rather than to fathers, tend to increase children's nutrition and well-being. Likewise, microcredit given to women in developing countries is often better spent on the education of children, or on investment in earning income capacity, than when given to men in a household (Fofana et al., 2015). Thus, the unitary model does not provide a realistic and up-to-date view on intra-household dynamics, male and female functions in households, household decision making, and money management of partners.

In contrast with unitary models, *bargaining models* of household financial decision making are based on the individual utility functions of decision makers: partners, older children, and other persons in the household (Manser & Brown, 1980; McElroy & Horney, 1981). In cooperative bargaining models, the individual utility obtained within the household may be compared with the individual utility that might be obtained by each partner in case he or she would live outside the household (the so-called fall-back position or threat point). For instance, in case of a divorce. The difference in one's utility (living outside vs. living within the household) is considered the

opportunity cost of staying within the household. In cooperative bargaining models, household members negotiate in order to reach an agreement regarding household financial decisions. Since wage earners can usually obtain relatively favourable outcomes outside the household, they may have more power and influence on the decision of how to spend the money. In addition to wealth position, financial knowledge and experience are factors contributing to the power of partners in bargaining and household financial decision making. Alternatively, outcomes may be achieved by non-cooperative decision making, in which the partners decide on their own but still enjoy sharing the household public goods (Lundberg & Pollak, 1993; Himmelweit, et al., 2013).

In the *collective model* of household decision making, the weighted sum of individual utility functions is maximized. In this case, the weight given to each individual utility function is based on the bargaining power of the partners in the household (Chiappori, 1988, 1992; Apps & Rees, 1997) such that higher bargaining power may result in higher utility. Bargaining and collective models of household decision making do not assume income pooling, as in the unitary model. Yet, even in those models, income pooling may be applied in order to lower transaction costs (Treas, 1993).

In the second part of the 20th century, family structures and labour divisions have changed considerably, due to modernization and individualization, resulting in more individual freedom and less traditional role patterns of household partners (Beck-Gernsheim, 2007). Differences between generations, social classes, income levels, and household division of labour may affect household financial management practices (Kenney, 2006). This change in household processes is reflected in the development of household economic models, increasingly focusing on bargaining, and raising the issue of power in decision making. These two developments are examples of why traditional role patterns, such as the husband as the main wage earner, are disappearing.

In this paper, we do not particularly favour one of the microeconomic models. Rather, we adopt the idea of different types of households behaving in different ways with respect to financial decisions. Some couples make decisions more or less jointly, whereas others bargain over issues and exercise power to reach advantageous outcomes. This idea leads to a segmentation of households with respect to the type of decision making and financial management styles. We construct and study different household models in relation to financial household decisions, taken jointly or separately, and their financial outcomes, the absence or presence of financial problems regarding issues such as making ends meet and paying bills on time.

In addition to restrictions of time and money, microeconomic models of the household may specify the factors in exercising power in decision making. For example, Ott (1995) found positive effects of the wife's education and income on her power in the marriage. Also, a partner's wage rate has been found to influence engagement in financial decision making and management

(Dobbelsteen & Kooreman, 1997; Antonides, 2011). Institutional factors, such as marriage contracts, divorce law, and alimony regulations may further influence decision power (Himmelweit et al., 2013). Even with income pooling, inequality in decision power may exist, for example, because non-earning women may feel uncomfortable spending money they did not earn themselves (Kenney, 2006). Microeconomic models usually do not describe the processes of decision making, which is the domain of psychology, sociology, and marketing, to be discussed next.

2.2 Psychological, sociological, and marketing models of household decision making

In most cultures, gender inequality in household work, income, and power exists. Women generally do more household work than men, and tend to decrease their household work as their earnings increase. However, even if spouses contribute equally to the household income, women still do more household work than men (Bittman et al., 2003; Hook, 2010). Partners earning a larger part of the total household income usually have more influence on how the income should be spent. Mader and Schneebaum (2013) find that, across Europe, women often make decisions about everyday household spending and purchases for themselves and the children, whereas men make most complex financial decisions in a household such as concerning the tax declaration and the purchase of durable goods and financial products such as mortgages and pension plans. In general, this means that men have so-called "orchestration power" (Safilios-Rothschild, 1976; Webster, 1998), whereas women have "implementation power." Greater equality of income and education between partners is generally related to more joint decision making on spending and saving.

Another issue in intra-household dynamics is the power of partners and its impact on negotiation, bargaining and exchange processes. Power depends on (1) cultural definitions of who has the authority in the household, (2) degree of (in-) dependence of partners, for instance their personal income and financial contribution to the household, (3) role competence and skills, including bargaining skills, and (4) (financial) knowledge and cognitive competence. The non-earning partner often has less power and less "say" in the decision of how to spend the household money. Burgoyne (1990) concludes that women, after an interruption of child bearing and nurturing, have a disadvantage with regard to earning income on the labour market and thus less influence on household financial decisions.

McDonald (1980) emphasizes commitment, trust, and reciprocity in exchange and negotiation processes between partners. Exchange theory does not only concern competitive, but also cooperative aspects of interaction and equity between partners. Note that negotiation is not a "one-shot" bargaining but an ongoing process in households over an extended period of time (Scanzoni & Polonko, 1980) with outcomes that may alternate, but balancing the favours of each household partner in the long run. Research findings on conflict and bargaining strategies of household partners are reported in Kirchler et al. (2001).

Kamleitner et al. (2017) state that, despite the increasing financial independence of women, most financial decisions tend to be made jointly. The only exception appears to be spending decisions on everyday goods and services, that are often made individually. In marketing, the emphasis is usually on individual decision making and choice, overlooking the fact that most major financial decisions of couples are made together.

2.3 Types of money management

Ferber and Lee (1974) coined the concept of the "family financial officer" (FFO). The FFO is the partner, often the husband, who takes the major financial decisions concerning, for example, the mortgage, tax declaration, and the purchase of expensive household items, such as the car and living room furniture. The FFO is either a reminiscent of the husband as the head of the household, or is the person with a better financial knowledge and capability than his/her partner.

Pahl (1995) and Vogler (2005) in the UK assessed four household money management styles in their surveys: (1) joint pool of income and joint decision making, (2) female whole wage and pocket money for the husband, (3) male whole wage and housekeeping allowance for the wife, and (4) independent/autonomic money management of both partners. The respondents were asked which of these four money management styles best described the way they were managing their money. "Female whole wage" means that the wife is the family financial officer (FFO; Ferber & Lee, 1974) of the household, probably giving pocket money to her husband. "Male whole wage" means that the husband is the FFO, probably giving a housekeeping allowance to his wife. Heimdal and Houseknecht (2003), using the International Social Survey Programme, also employed the procedure of respondents choosing which financial management style best describes their situation.

Kenney (2006) asked couples in the US about both keeping money separately or jointly, and who controlled the money in the household, then used the answers to create Pahl's typology. 26% Used a jointly controlled pool, 21% a female-controlled pool, 11% male-controlled pool, 15% independent management with equal control, 21% female-controlled separate management, and 7% male-controlled separate management. Lyngstad et al. (2011) also asked household partners whether they had a joint bank account or not, and whether the partners consulted each other before making a large purchase. Treas (1993) focused exclusively on households having joint and separate accounts, showing that 64.0% of couples in the US have a joint account only, 17.6% have both joint and separate accounts, and 18.0% have separate accounts only. Huang et al. (2016) also focused exclusively on joint and separate accounts, showing that 30.9% of couples in Australia have only a joint account, in 43.6% of couples each partner has a separate account, in 17.3% of couples only women have a separate account, and in 8.2% of couples only men have a separate account.

Davis and Rigaux (1974) asked their sample of Belgian respondents to indicate their partner's influence on decisions in specific domains of spending. Three stages of decision making were distinguished: problem recognition, search for information, and the decision to purchase a good

or service. The purchasing decisions may be female-dominant (children's clothing, woman's clothing, food, cleaning products, kitchenware, cosmetics), male-dominant (insurance, car), syncratic/joint (school, vacation, housing, outside entertainment, living room furniture, children's toys), and autonomic (both partners for themselves) (man's clothing, alcoholic beverages, garden tools, non-prescription drugs).

In Davis and Rigaux's (1974) study, most decisions (52%) were taken together (syncratic), 20% of decisions were taken autonomic ally, 20% of decisions were female-dominant, and 8% of decisions were male-dominant. Bonfield (1978), in a study done in the US, found somewhat different proportions of the four groups: 35% female-dominant; 30% syncratic; 20% male-dominant; and 15% autonomic. These differences largely depend on the products and services included in these studies.

The four decision types are somehow related to the microeconomic household models, discussed in Section 2.1. Syncratic decision making seems to fit the unitary model, based on consensus. The male-dominant model fits Becker's model best (1981), as does the female-dominant model with male and female roles reversed. Autonomic decision making comes closest to the cooperative bargaining model.

Muehlbacher et al. (2009) hypothesized that gender roles have changed during the last decades. Younger couples are expected to make their decisions more syncratically and/or autonomically and less male/female-dominant than older couples. However, contrary to their expectations, they did not find gender role changes due to age for major purchases such as cars, computers, holidays, and living-room furniture.

Besides household financial management being characterized by the above-mentioned decision-making styles, financial management includes a number of activities such as information seeking on financial and other products and services, setting life goals and financial goals for the household, employing mental budgeting, making spending and saving plans, and reaching agreement on financial decisions. If persons in a household do these activities well, it is expected that these persons/couples will have fewer financial problems and thus a higher financial well-being than persons/couples not doing these activities (Van Raaij, 2016).

3. Method

In this section, we describe the procedure of sampling from a household panel, and the way respondents were invited to participate in the study, and to fill out the questionnaire. The sample included both married and cohabiting partners, as advised in Heimdal and Houseknecht (2003) and Lyngstad et al. (2011), both couples with partners of different gender and couples with partners of the same gender, and couples with and without children.

3.1 Sample and procedure

A total of 21,750 members of the consumer panel of a market research agency in The Netherlands were invited to participate in the study. These panel members were selected as members of households with two partners of 18 years or older, with or without children living at home. 7,012 Persons reacted to the invitation and received the questionnaire. A total of 4,900 persons completed the questionnaire. These persons were then asked to request their partners to participate, and 1,205 partners completed the questionnaire as well. Asking partners of respondents afterwards was done to increase the independence of observations. Partners of panel members were also 18 years or older. A number of the questionnaires were not completely filled out, filled out as "straight liners" (giving the same scale answer to all or most questions) or partners simply copied the responses on the questionnaire from the first participant. These questionnaires were eliminated from the study. A net total of 1,116 households remained of which both partners completed the questionnaire independently. The data were collected online in The Netherlands in January 2017.

3.2 Questionnaire

The questionnaire comprised three blocks of questions. The first block consisted of descriptors of the households and the partners in a household, including household/family size, family arrangement (marriage, cohabitation), presence and number of children, and the presence of joint or separate bank and savings accounts. Individual information included gender, age, and financial knowledge (five knowledge quiz questions on compound interest, inflation, time discounting, and money illusion) of both partners in households.

The second block of the questionnaire consisted of questions on financial behaviour, including quality of decision making and financial management, information seeking, having life goals and financial goals, employing mental budgeting, spending and saving plans, and agreement with the partner on financial decisions. Since the focus of our study is on financial management styles, their determinants and financial outcomes, these variables were not used in the current research. Other variables, included in the research, concerned sharing/pooling of personal income, having a higher income than one's partner, and perceived knowledge to make important financial decisions.

The third block consisted of questions on financial outcomes, including monthly savings and total debts (euros). Furthermore, this block included questions on having an overview of expenses including those made by one's partner, on difficulty of making ends meet, on comparing prices before making an important purchase, and on the last time a financial problem had occurred. These financial problems included: not paying a personal bill in time, not paying a household bill in time, not having enough money on the joint account, not having enough money on the personal account, and not paying off loans/credit.

3.3 Analyses

The first block of variables served as background factors explaining the household decision-making and money-management styles. The variables of the third block are mainly dependent variables to be explained by the independent variables of the first and second block.

Although income was asked in brackets, we computed mathematical expectations of the income brackets assuming a lognormal distribution of income over the brackets, separately for the two partners in the household (Aitchison & Brown, 1960; Antonides, 1990, pp. 160-162). Saving and credit information was reported in brackets, and we converted this data into point estimates by using the bracket mid-points (and 1.5 times the highest bracket value if the amount exceeded that value).

We conducted a multidimensional scaling technique called PRINCALS (Gifi, 1985). The technique can be considered an extension of principal component analysis (PCA). Where PCA can handle numerical variables only, PRINCALS can also handle ordinal and nominal variables. We used PRINCALS to analyse the data concerning the last time five different financial problems had occurred (last week, last month, last year, more than a year ago, never had this problem), in order to cluster and summarize this data in a meaningful way. Since there were five financial problems presented per household with two responses per household, the PRINCALS analysis was run with ten variables. All ten variables were treated as ordinal variables. The scaling procedure resulted in interval-type measures (quantifications) for each time period associated with the occurrence of each financial problem, which were then aggregated over the five problems and the two partners. The result of the scaling procedure was a one-dimension solution with a total fit of 0.561, which indicates that this dimension explained 56.1% of the variance in the answers given by respondents.

The collected data were re-organized in such a way that the unit of analyses were households rather than individuals. Each household record included both the responses of the panel member and his/her partner, such that the male partner was indicated as partner 1, and the female partner as partner 2. Forty households consisted of same-gender partners. The partner who was originally in the research agency panel was indicated as partner 1; the other as partner 2.

Based on information on the presence of bank accounts, households were segmented into types with joint and/or separate bank accounts, and types who reported syncratic, male-dominant, female-dominant, or autonomic financial

decision making. Note that this approach differs from Vogler and Pahl's approach (1994). We did not formulate money management styles beforehand and let the respondents choose from these styles. In this study, we developed different groups/segments from partners' reports of having joint or separate bank accounts and reported management of the joint accounts.

4. Results

4.1 Household types

50.0 Percent of the households in the sample had a joint bank account only and neither partner reported having a separate bank account, which can be considered as total pooling or sharing of income. 37.8 Percent of the households had a joint account and at least one partner reported having a separate bank account as well. This is called "partial pooling" of income (Burgoyne et al., 2007). 10.4 Percent had only separate accounts. 1.8 Percent had neither a joint account nor separate accounts, probably consisting of households who did not manage their finances themselves. The latter group was omitted from the remaining analyses.

Huang et al. (2016) mention the situation of individuals who rely exclusively on joint accounts, but whose partners also possess an individual separate account, as being particularly disadvantaged. In our sample, there were 50 such individuals of the partner 1 type, and 100 individuals of the partner 2 type. Since partner 1 in most cases is the husband, it appears that any imbalance arising from such asymmetrical situations is to the advantage of women in our sample.

In 912 households, both partners completed a question about who made decisions about the joint bank account. Decision making concerning the joint bank account was assessed by converting the individual answers into three categories: "I always/usually decide myself," "We decide jointly/together," and "My partner always/usually decides" (see Table 1). Note that inconsistencies arise if both partners report to decide themselves, or if both partners report that the other partner makes the decisions. Here, such inconsistencies amounted, respectively, to 0.3 + 0.0 = 0.3 % only, and these households were omitted from the remaining analyses. True consistency was achieved if one partner reported to decide him/herself and the other partner reports his/her partner to decide, or both partners reported syncratic decision making, which was the case for, respectively, 1.4 + 5.6 + 77.9 = 84.9%. The remaining responses may be called partially consistent (14.8 %). Combining both the consistent and partially consistent responses, we

Table 1. Who decides on expenses made from the joint account?

	Female response		
Male response	I always/usually decide	Decide jointly/together	Partner always/usually decides
I always/usually decide	0.3 %	3.0 %	1.4 %
Decide jointly/together	6.4 %	77.9 %	2.1 %
Partner always/usually decides	5.6 %	3.4 %	0.0 %

Table 2. Decision styles (household segments) by having joint/separate bank accounts.

Money-management style	Only a joint bank account	At least one separate bank account	Total
Syncratic	46.1 %	31.8 %	78.0 %
Male-dominant	2.7 %	3.0 %	5.8 %
Female-dominant	2.9 %	2.0 %	4.9 %
Autonomic (no joint account)	n.a.	11.3 %	11.3 %
Total	51.7 %	48.1 %	100.0 %

arrived at the following household financial management categories. The above-diagonal cells of Table 1 (3.0 + 1.4 + 2.1 = 6.5%) were considered to indicate male dominance; the below-diagonal cells of Table 1 (6.4 + 5.6 + 3.4 = 15.4%) female dominance.

From Table 1, we assessed three financial management styles: syncratic, male-dominant, and female-dominant. If there was no joint bank account, both partners were assumed to decide for themselves, denoted as independent or autonomic money management, this being the fourth financial management style. Note that autonomic money management does not exclude that partners decide together on how much each partner contributes to joint expenses such as expenditure for the children, home, and holiday trip (Kamleitner et al., 2017).

In Table 2, based on 1,025 households, seven segments are distinguished, based on reported joint and separate bank accounts, and on the money management regarding the joint account. The syncratic money-management style was prevailing with 78.0% of the households. 11.3 Percent of the households were of the autonomic money-management style, with separate accounts only. The segments of male-dominant and female-dominant money management were relatively small, respectively, 5.8% and 4.9%. Since money-management style was relatively independent from having separate accounts, the two household type indicators were dealt with separately in our analyses. Next, we relate a number of background variables to the household money-management styles and to having separate bank accounts in the household. In conclusion, we found similar household types as Davis and Rigaux (1974), Pahl (1995), and Vogler (2005), although we obtained a higher proportion of the syncratic money- management style.

4.2 Determinants of household financial management

In The Netherlands, same-sex couples can marry, can have children, and usually arrange their finances in the same way as different-sex couples. In our sample, neither the distribution of household type, nor holding separate bank accounts were much different between same-sex and different-sex couples, although same-sex couples had less other household members and were more often living together on a contract

arrangement rather than a marriage. Because we took these background variables into account, we included both same-sex and different-sex couples in the following analysis.

In Table 3, the sample statistics of household background variables are shown. In most households, partners reported being married in community of goods, followed by contractual marriage or registered partnership, and cohabiting without a formal arrangement. Partners' responses show great consensus. Partner 2 more often than partner 1 reported having no income, which confirms the Dutch situation in which women relatively often take full-time care of the children. In The Netherlands, in single- earner households, the income earner is often the husband. In double-earner households, the husband has a full-time job more often than his wife (Roes, 2008, Table 1.2, p. 18). Partners seemed to agree that partner 1 had a higher income than partner 2, although partner 1 slightly more often reported sharing income by transferring money to a joint account, or spending on shared expenses such as food and children's clothing. Both partners seemed to agree on having enough knowledge to take important financial decisions. Their actual knowledge, according to the 5-item financial literacy scale, was quite high, and somewhat higher for partner 1 than for partner 2. The average age was in the low fifties, with partner 1 a little older than partner 2. This reflects that in The Netherlands, husbands in their first marriage/cohabitation are on average 2.5 years older than the wife in her first marriage/cohabitation (Smeenk, 1998). Total monthly net household income was almost € 3,000 on average. Half of partners 1 had a medium level of professional education, whereas

Table 3. Sample statistics of household background variables of both partners. (standard errors in brackets)

	Partner 1	Partner 2
Partnership arrangement		
Married in community of goods	73.5%	72.9%
Marriage contract, cohabiting living arrangement, registered partnership	19.2%	19.9%
Cohabiting without arrangement or registration, or unknown arrangement	7.3%	7.2%
Partner him/herself has no income	1.6%	20.1%
Relative income of partner 1 (5-point scale)	3.92 (0.04)	3.93 (0.04)
Sharing personal income (5-point scale)	4.48 (0.03)	4.21 (0.04)
Knowledge of both self and partner to take important financial decisions (4-point scale)	3.14 (0.02)	3.15 (0.02)
Actual financial knowledge (5-point scale)	3.81 (0.04)	3.63 (0.04)
Age (years)	53.28 (0.33)	50.55 (0.32)
Total monthly net household income (euro)	2,985 (38)	2,947 (40)
Highest completed education level partner 1 *		
No education, basic education	4%	n.a.
Medium professional education	50.5%	n.a.
Higher general, higher professional education	45.4%	n.a.

*: Education level obtained from research agency, not from questionnaire.

45% had completed a higher education.

In Table 4, the results of a multinomial logit regression analysis of financial management styles are shown, with the syncratic financial management style as the default. The probability of belonging to the male-dominant money-management style, as compared with the syncratic money-management style, was negatively related to income sharing only (B = –.505); the other variables did not affect this probability. Thus, sharing one's income decreased the likelihood of belonging to the male-dominant money-management style, relative to the syncratic money-management style. The value under Exp (B) is the odds ratio for the predictor variable. An odds ratio > 1 indicates that belonging to the comparison group is more likely with one unit increase of the predictor variable; an odds ratio < 1 indicates that the default or referent group is more likely with one unit increase of the predictor variable. The coefficient of .60 for income sharing in male dominant household types indicates that the probability of belonging to the male-dominant style (relative to the syncratic style) would diminish by 40% with each additional point on the 5-point scale for reported income sharing. Put differently, income sharing makes it more likely to belong to the syncratic money-management style than to the male-dominant money-management style. Although the same-gender dummy was significant, male dominance in this case means that partner 1, the one belonging to the marketing research panel, was most dominant.

The probability of belonging to the female-dominant money-management style was negatively related only to the objective knowledge difference between partner 1 and partner 2 (B = –.309). This means that if the female partner possessed more knowledge than her partner, it was more likely that the household belonged to the female-dominant rather than to the syncratic money-management style.

The probability of belonging to the autonomic money-management style was positively related to a cohabiting living arrangement without a contract or registration (as compared with marriage in community of goods) (B = 2.224), differences in age (B = .071), and objective knowledge difference between partner 1 and partner 2 (B = –.088), and negatively related to income sharing (B = –.768). Households without contract arrangements were nine times more likely to have an autonomic money-management style than those who were married, as shown by the coefficient Exp (B) = 9.247. This means that if partners had no partnership arrangement (rather than marriage in community of goods), differed in age, differed in their financial knowledge, and/or did not pool their income, it was more likely that the household belonged to the autonomic rather than to the syncratic money-management style.

In Table 5, the results of a binary logit regression analysis of having separate vs. joint bank accounts in the household are shown. It appears that having a marriage or cohabitation contract, as compared with marriage in community of goods, and having a large family increased the probability of having separate bank accounts, whereas income sharing, and perceived knowledge of the partners decreased the

probability of having separate bank accounts. Saying this in another way, the probability of a joint bank account was larger, if partners were married, their family was small, income was pooled, and/or financial knowledge of partners was large.

Table 4. Results of multinomial regression analyses. Estimated effects of variables on belonging to a particular financial management style, with the syncratic style as the default.

	Male-dominant			Female-dominant			Autonomic		
	B	SE	Exp (B)	B	SE	Exp (B)	B	SE	Exp (B)
Intercept	-0.546	1.915		-1.036	2.215		1.838	1.491	
Family size	.174	.142	1.190	-.125	.170	.883	.165	.121	1.179
Partnership arrangement[1]	-.191	.370	.826	.069	.389	1.071	.377	.286	1.458
No partnership arrangement[1]	-.338	.790	.713	-.181	.794	.835	2.224	.350***	9.247
Same-gender household	1.597	0.488	4.937***	n.a.	n.a.	n.a.	.505	.559	1.657
Age	-.003	.016	.997	-.012	.017	.988	-.007	.012	.993
Age difference	-.013	.029	.987	.043	.031	1.044	.071	.021**	1.073
Missing income	.628	.600	1.874	-.377	.682	.686	-.977	.557	.377
Net household income	.147	.140	1.158	.038	.151	1.039	-.161	.118	.852
Partner 2 no income	-.141	.861	.868	-.010	.920	.990	-1.822	.646	.162
Relative income partner 1	-.750	.573	.472	-.034	.615	.966	-.888	.396*	.412
Relative income partner 1 squared	.147	.091	1.158	-.014	.097	.922	.138	.064*	1.148
Income sharing	-.505	.128***	.604	-.013	.182	.978	-.768	.102***	.464
Perceived knowledge	-.223	.306	.800	-.304	.336	.820	.238	.258	1.268
Knowledge partner 1	.135	.144	1.144	-.145	.136	.865	-.104	.107	.901
Knowledge difference	.129	.128	1.138	-.309	.152*	.734	.230	.099*	1.258
Intermediate education partner 1	-.247	.787	.781	1.025	1.069	2.787	-.159	.609	.853
High education partner 1[2]	-.164	.406	.849	.437	.551	1.549	-.052	.315	.949

Nagelkerke R^2= 0.272; * p<0.05, **p<0.01; ***p<0.001
[1] Default type is married partners; [2] Default is low education

Table 5. Estimated effects of variables on having a separate bank account (having only a joint account is the default).

	B	SE	Exp(B)
Intercept	6.378	1.111***	588.604
Family size	.022	.084***	1.022
Partnership arrangement[1]	.958	.202***	2.606
No partnership arrangement[1]	2.351	.449	10.500
Same-gender household	.600	.397	1.823
Age	-.001	.009	.999
Age difference	.014	.015	1.014
Missing income	-.138	.333	.871
Net household income	.054	.077	1.056
Partner 2 no income	-.958	.463	.384
Relative income partner 1	-.459	.302	.632
Relative income partner 1 squared	.080	.048	1.083
Income sharing	-1.154	.109***	.315
Perceived knowledge	-.340	.167*	.712
Knowledge partner 1	.039	.074	1.039
Knowledge difference	.048	.071	1.049
Intermediate education partner 1[2]	-.473	.391	.623
High education partner 1[2]	-.077	.203	.926

Nagelkerke R^2= 0.372; * p<0.05, ** p<0.01; *** p<0.001
[1] Default type is married partners; [2] Default is low education

4.3 Financial outcomes of household-decision types

Next, we conducted an analysis of variance for a number of financial household outcomes with household financial management style (male dominant vs. female dominant vs. autonomic vs. syncratic) and bank account type (no separate bank accounts vs. separate bank accounts) as fixed factors. The financial household outcomes included savings, debts, making ends meet, having an overview of expenses, making price comparisons, and how long ago several financial problems had occurred. The latter variable was constructed by multidimensional scaling (PRINCALS) of the five relevant variables for each partner. Table 6 summarizes the results.

Reported savings were not very different across financial management styles and bank account types. Only savings reported by partner 2 (mostly females) in households with syncratic financial management were higher (€ 274) than those reported for households with autonomic financial management (€ 187). Total reported household debts were not significantly different across financial management styles. Difficulty of making

ends meet was significantly higher in female-dominant than in syncratic financial management styles, as reported by both partner 1 and partner 2. This could mean that women did less well as financial managers. This result cannot be explained by a lower income of female-dominant households, as shown by the insignificant differences in income across financial management styles (Table 4).

Partner 1 of female-dominant money-management style reported making less price comparisons than partner 1 of the other money-management styles. For partner 2, there were no such differences. Also, partner 1 of female-dominant money-management style reported having much less overview of expenses than partner 1 of the other money-management styles, whereas partner 2 in female-dominant money- management style reported having a much better overview. These results may be partly due to role division in these types of households. Finally, partners of male-dominant money-management style and those with separate bank accounts reported a significantly shorter period when financial problems had occurred than partners of the other money-management styles, indicating that financial

Table 6. Household financial outcomes by financial management style and having separate accounts (standard errors between brackets).

	Male-dominant	Female-dominant	Autono-mic	Syncratic	No separate bank accounts	Separat e bank account s
Monthly savings by male	372 (45)	297 (58)	289 (35)	303 (13)	321 (34)	317 (28)
Monthly savings by female	246 (46)	319 (44)	187 [a] (31)	274 [b] (12)	297 (31)	244 (24)
Household debts [1] × 1,000	111 (16)	89 (17)	84 (11)	96 (4)	85 (11)	106 (9)
Household debts [2] × 1,000	101 (17)	94 (18)	83 (12)	98 (5)	83 (11)	105 (10)
Difficulty of household making ends meet [1]	2.05 (.16)	2.30 [a] (.17)	1.99 (.11)	1.81 [b] (.04)	1.94 (.11)	2.12 (.09)
Difficulty of household making ends meet [2]	2.10 (.16)	2.41 [a] (.17)	2.03 (.11)	1.84 [b] (.04)	2.00 (.11)	2.18 (.09)
Comparing prices by male [1]	4.05 [a] (.16)	3.12 [b] (.17)	3.89 [a] (.11)	3.88 [a] (.04)	3.71 (.11)	3.72 (.09)
Comparing prices by female [2]	3.85 (.15)	4.25 (.16)	3.90 (.11)	4.14 (.04)	4.17 (.10)	3.97 (.09)
Overview of expenses by male [1]	4.17 [a, c] (.16)	2.27 [b] (.18)	3.78 [a] (.12)	3.69 [a, d] (.05)	3.53 (.11)	3.36 (.09)
Overview of expenses by female [2]	3.16 [a] (.16)	4.13 [b] (.17)	3.31 [a] (.11)	3.90 [b] (.04)	3.85 [x] (.11)	3.54 [y] (.09)
Last time household had problems	-0.42 [a] (.13)	-0.28 (.14)	-0.06 (.09)	0.04 [a] (.04)	0.08 [x] (.09)	-0.41 [y] (.07)

*Note: [1] Reported by partner 1; [2] reported by partner 2; different superscripts in each row indicate significant differences between the figures (*p<*.05)*

problems were more frequent for male-dominant money-management style and in households with separate bank accounts.

We found one significant interaction effect of financial management styles and bank account type (not reported in Table 6). The overview of expenses of partner 2 in male-dominant financial management style was higher with separate bank accounts than with joint accounts, whereas the overview of expenses of partner 2 in female-dominant financial management style was higher with joint accounts than with separate bank accounts.

5. Conclusions

There is a clear historical trend in the literature from male/husband-dominant (Becker, 1981; Ferber & Lee, 1974) financial management of households in the 1980s to syncratic/joint money management, financial decision making, and partial or full pooling/sharing of income between partners nowadays. This trend seems to be reflected in the large prevalence of joint decision making in our study in The Netherlands.

We found that partners of households with a joint bank account are likely to be married, that their families are small, that they pool their income, and that they have a relatively large financial knowledge/literacy. We speculate that early-relationship partners bring their separate bank and savings accounts into their marriage or cohabitation, and then open a joint bank and savings account for joint savings and expenses, such as buying a house, home improvement, expenses on children, and holiday trips. This is a case of partial pooling (Burgoyne et al., 2007). Kan and Laurie (2013) also found that married partners are more likely to hold joint savings, investments and debts than cohabiting partners.

Household segmentation with respect to syncratic, male/female dominance, and autonomic decision-making and financial management styles is insightful. The syncratic financial management style is prevalent among 77.9% of Dutch households. If partners do not pool their income, it is likely that the household employs a male-dominant financial management style. However, if the female partner possesses more financial knowledge than her partner, it is likely that the household employs a female-dominant financial management style. If partners have no partnership arrangement, differ in age and/or in financial knowledge, and/or do not pool their income, it is likely that the household employs an autonomic financial management style. A tentative conclusion might be that similar characteristics of partners make joint decision making more likely than dissimilar characteristics of partners. Antonides (2011) also found that husbands who are more freely spending money, are less likely to be involved in household investment decision making and paying bills.

Partners not only bring their bank and savings accounts into their marriage or cohabitation, they also bring in their financial literacy. With a longer duration of the relationship, it is likely that the financially more knowledgeable partner will do the financial management and has more “say” in the major financial decisions of the household. This means that with a longer duration of the relationship and more division of labour, the role of the family financial officer (FFO) will become more apparent. However, like Muehlbacher et al. (2009), we found no effect of age in this study. The financial management styles of young couples do not significantly differ from old couples. It is not clear to what extent this result reflects a non-existing effect of role specialization

or ageing, a non-existing generation effect, or both.

This study is on the joint and separate financial management of couples. The focus is the financial contribution (earning, spending, saving) of the partners to the household. Partners also contribute to the household in kind, for instance in unpaid household work. This also increases the welfare of the household. However, the amount of household work may differ between partners and its value may be insufficiently recognized. Especially in autonomic and male/female-dominant financial management, the partner contributing in kind may have less power and influence in financial decisions of the household. More research is needed on the contributions in money and in kind to the welfare of households.

We found that syncratic and autonomic money-management styles tend to result in less financial problems than male-dominant and female-dominant money-management styles. If one person of the household is dominant in financial management (the Family Financial Officer, FFO), it is likely that his/her partner is less involved and less satisfied with the household financial outcomes. With a syncratic money-management style, it is likely that partners discuss purchases and expenses beforehand, control each other, avoid impulsivity, correct mistakes, and thus avoid financial problems. Barber and Odean (2001) found that overconfidence in stock investment decision making, as reflected in excessive trade and lower returns, is higher for men than for women. However, the difference is smaller for married partners than for single individuals, suggesting beneficial effects of joint financial management. Joint decision making, self-control and partner control seem to be the ingredients for avoiding financial problems.
The avoidance of financial problems is likely to be a strong determinant of financial satisfaction, welfare and well-being of partners. Two dimensions may be distinguished in financial well-being: current money-management stress and expected future financial security (Netemeyer et al., 2018). However, Kan and Laurie (2013) do not find differences in well-being of spouses between those who hold joint investments and those who hold separate investments. In future studies, the relationships between financial problems and these dimensions of well-being should be investigated further.

Results of this study may be used by banks to segment and advise their customers, and for advice and policy on financial literacy, expenditure, debt and saving of consumers in households. For example, relationship partners who just have started cohabitation or marriage might be offered a joint account for free (at least for some time), thus hopefully stimulating further joint financial decision making and the prevention of financial problems.

References

Antonides, G. (1990). The Lifetime of a Durable Good. Dordrecht: Kluwer Academic Publishers.

Antonides, G. (2011). The division of household tasks and household financial management. Journal of Psychology, 219(4), 198-208.

Aitchison, J., & Brown, J. A. C. (1960). The Lognormal Distribution. Cambridge: Cambridge University Press.

Antonides, G., De Groot, I. M., & Van Raaij, W. F. (2011). Mental budgeting and the management of household finance. Journal of Economic Psychology, 32, 546-555.

Antonides, G., & Van Klaveren, C. (2018). "Consumers and Households". In: Lewis, Alan (Ed.) The Cambridge Handbook of Psychology and Economic Behaviour (pp. 340-364). Cambridge: Cambridge University Press.

Apps, P. F., & Rees, R. (1997). Collective labor supply and household production. Journal of Political Economy, 105, 178-190.

Bandura, A., & Cervone, D. (1983). Self-evaluative and self-efficacy mechanisms governing the motivational effects of goal systems. Journal of Personality and Social Psychology, 45, 1017-1028.

Barber, B. M. & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. Quarterly Journal of Economics, 116, 261-292.

Beck-Gernsheim, E. (2007). From 'the family' to 'families': How individualization and globalization are changing our personal lives. Soundings, 35(1), 105-114.

Becker, G. S. (1981). A Treatise on the Family. Cambridge, MA: Harvard University Press.

Bittman, M., England, P., Sayer, L., Folbre, N., & Matheson, G. (2003). When does gender trump money? Bargaining and time in household work. American Journal of Sociology, 109(1), 186-214.

Bonfield, E.H. (1978). Perception of marital roles in decision processes: replication and extension. Advances in Consumer Research, 5, 300-307.

Braunstein, S., & Welch, C. (2002). Financial Literacy: An Overview of Practice, Research, and Policy. Federal Reserve Bulletin, (November), 445-457.

Browning, M., Chiappori, P.-A., & Lechêne, V. (2006). Collective and unitary models: A clarification. Review of Economics of the Household,), 5-14.

Burgoyne, C. B. (1990). Money in marriage: How patterns of allocation both reflect and conceal power. Sociological Review, 38, 634-665.

Burgoyne, C. B., Reibstein, J., Edmunds, A., & Dolman, V. (2007). Money management systems in early marriage: Factors influencing change and stability. Journal of Economic Psychology, 28, 214-228.

Burgoyne, C. B., & Kirchler, E. (2008). "Financial decisions in the household" In: Alan Lewis (Ed.), The Cambridge Handbook of Psychology and Economic Behaviour (pp. 132-152). New York: Cambridge University Press.

Chiappori, P.- (1988). Rational household labor supply. Econometrica, 56, 63-90.

Chiappori, P.-A. (1992). Collective labor supply and welfare. Journal of Political Economy, 100, 437-467.

Davis, H. L., & Rigaux, B. P. (1974). Perception of marital roles in decision processes. Journal of Consumer Research, 1, 51-62.

Ericsson, K. A. (2006). 'The influence of experience and deliberate practice on the development of superior expert performance.' In: K.A. Ericsson, N. Charness, P.J. Feltovich, & R.R. Hoffman (Eds.), The Cambridge Handbook of Expertise and Expert Performance (pp. 683-704). Cambridge: Cambridge University Press.

Ferber, R., & Lee, L. C. (1974). Husband-wife influence in family purchasing behavior. Journal of Consumer Research, 1, 43-50.

Fofana, N. B., Antonides, G., Niehof, A., & Van Ophem, J. A. C. (2015). How microfinance empowers women in Côte d'Ivoire [Ivory Coast]. Review of Economics of the Household, 12(4), 1–21.

Gifi, A. (1985). PRINCALS User's Guide. Leiden: Department of Data Theory.

Heimdal, K. R., & Houseknecht, S. K. (2003). Cohabiting and married couples' income organization: Approaches in Sweden and the United States. Journal of Marriage and the Family, 65(3), 525-538.

Himmelweit, S., Santos, C., Sevilla, A., & Sofer, C. (2013). Sharing of resources within the family and

the economics of household decision making. Journal of Marriage and Family, 75, 625-639.

Hook, J. L. (2010). Gender inequality in the welfare state: Sex segregation in housework, 1965-2003. American Journal of Sociology, 115(5), 1480-1523.

Huang, Y., Perales, F., & Western, M. (2016). On whose account? A longitudinal study of financial arrangements within heterosexual couples. Life Course Centre, Institute for Social Science Research, University of Queensland, Indooroopilly, Queensland, Australia.

Jappelli, T. (2010). Economic literacy: An international comparison. Economic Journal, 120 (November), F429–F451.

Kamleitner, B., Mengay, T., & Kirchler, E. (2017). "Financial decisions in the household." In: Morris Altman (Ed.), Handbook of Behavioral Economics and Smart Decision-Making (pp. 1-34). U.K.: Edward Elgar.

Kan, M. Y., & Laurie, H. (2013). Changing patterns in the allocation of savings, investments and debt within couple relationships. Sociological Review, 62, 335-358.

Kenney, C. T. (2006). The power of the purse: Allocative systems and inequality in couple households. Gender and Society, 20(3), 351-381.

Kirchler, E., Rodler, C., Hölzl, E., & Meier, K. (2001). Conflict and Decision-Making in Close Relationships. Love, Money and Daily Routines. Hove, East Sussex, UK: Psychology Press.

Lundberg, S., & Pollak, R. A. (1993). Separate spheres bargaining and the marriage market. Journal of Political Economy, 101, 988-1010.

Lundberg, S. J., Pollak, R. A., & Wales, T. J. (1997). Do husbands and wives pool their resources? Journal of Human Resources, 32, 463-480.

Lyngstad, T. H., Noack, T., & Tufte, P. A. (2011). Pooling of economic resources: A comparison of Norwegian married and cohabiting couples. European Sociological Review, 27(5), 624-635.

McDonald, G. W. (1980). Family power: the assessment of a decade of theory and research, 1970-1979. Journal of Marriage and the Family, 42(4), 841-854.

McElroy, M. B., & Horney, M. J. (1981). Nash-bargained household decisions: Toward a generalization of the theory of demand. International Economic Review, 22, 333-349.

Mader, K., & Schneebaum, A. (2013). The Gendered Nature of Intra-household Decision Making in and across Europe. Working paper 157. Vienna, Austria: Vienna University of Economics and Business.

Manser, M., & Brown, M. (1980). Marriage and household decision making: a bargaining analysis. International Economic Review, 21, 31-44.

Muehlbacher, S., Hofmann, E., Kirchler, E., & Roland-Lévy, C. (2009). Household decision making: Changes of female and male partners' roles? Psychology & Economics, 2, 17-37.

Netemeyer, R. G., Warmath, D., Fernandes, D., & Lynch Jr, J.G.. (2018). How am I doing? Perceived financial well-being, its potential antecedents, and its relation to overall well-being. Journal of Consumer Research, 45, 68–89.

Ott, N. (1995). "Fertility and division of work in the family." In: E. Kuiper & J. Sap (Eds.) Out of the Margin. Feminist Perspectives on Economics (pp. 80-99). London: Routledge.

Pahl, J. (1995). His money, her money: Recent research on financial organization in marriage. Journal of Economic Psychology, 16, 361-376.

Pahl, J. (2000). Couples and their money: Patterns of accounting and accountability in the domestic economy. Accounting, Auditing & Accountability Journal, 13, 502-517.

Pan, L., Van Raaij, F., & Kukk, M. (2017). The Merit of Teamwork. Couples who make Joint Decisions have fewer Financial Problems. ING Report. Think Forward Initiative. June 2017.

Roes, T. (Ed.) (2008). Facts and Figures of The Netherlands. Social and Cultural Trends 1995-2006. The Hague: SCP, Institute for Social Research.

Samuelson, P. A. (1956). Social indifference curves. Quarterly Journal of Economics, 70, 1-22.

Safilios-Rothschild, C. (1976). A macro- and micro-examination of family power and love: An exchange model. Journal of Marriage and the Family, 37 (May), 355-362.

Smeenk, W. (1998). Een ruil tussen de seksen? Leeftijdsverschillen tussen mannen en vrouwen binnen samenwoonrelaties [An exchange between sexes? Age differences between men and women in marriage and cohabitation]. Mens & Maatschappij, 75, 216-238.

Scanzoni, J., & Polonko, K. (1980). A conceptual approach to explicit marital negotiation. Journal of Marriage and the Family, 42(1), 31-44.

Treas, J. (1993). Money in the bank: Transaction costs and the economic organization of marriage. American Sociological Review, 58(5), 723-734.

Van Raaij, W. F. (2016). Understanding Consumer Financial Behavior. Money Management in an Age of Financial Illiteracy. New York: Palgrave Macmillan.

Vogler, C., & Pahl, J. (1994). Money, power and inequality within marriage. Sociological Review, 42, 263-288.

Vogler, C. (2005). Cohabiting couples: Rethinking money in the household at the beginning of the twenty first century. Sociological Review, 53, 1-29.

Webster, C. (1998). "The meaning and measurement of marital power: A review." (pp. 395-399). In: J.W. Alba & J.W, Hutchinson (Eds.), Advances in Consumer Research, Volume 25. Provo, UT, USA: Association for Consumer Research.

Willis, L. E. (2008). Against financial-literacy education. Iowa Law Review, 94, 197-285.

Zelizer, V. A. (1994). The Social Meaning of Money. New York: Basic Books.

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